C 10

which two-way communication link selectively comprises (1) low bandwidth data request and delivery channels, or (2) a low bandwidth data request channel and a high bandwidth data delivery channel, or (3) terrestrial data request and delivery channels.

Please add the following new Claims.

C 6

30. The system in Claim 1 wherein the cache has a size on the order of 30 gigabytes.

31. The system in Claim 1 wherein the cache comprises a multi-gigabyte hard disk drive.

REMARKS

Regarding the status of the present application, Claims 9, 18 and 26 have previously been canceled, Claims 1, 11, 25 and 29 have been amended, Claims 30 and 31 have been added, and Claims 1-8, 10-25 and 27-31 are pending in this application. Reconsideration of this application is respectfully requested.

Minor typographical errors in the specification have been corrected.

Claims 1-8, 11-17, 19-25, 28, and 29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,151,497 issued to Yee et al. in view of U.S. Patent No. 6,356,543 issued to Hall et al. It is respectfully submitted that independent Claims 1 and 11 are not obvious in view of the Yee et al. or Hall et al. patents, taken singly or together.

The Yee et al. patent discloses a "satellite based broadcast data communications service for a satellite communications system is presented which allows a data information service provider (40) to send large blocks of data information to mobile subscriber units (50). A satellite gateway (30) is coupled to a service provider (40) via a ground link (42) and to a satellite communications network (10) via a gateway link (36). A mobile subscriber unit (50) is coupled to the satellite communications network (10) via both a message link (56) and a high-speed high-bandwidth downlink (58). The mobile subscriber unit sends a data request for requested data information to service provider (40) via message link (56), satellite communications network (10), gateway link (36), gateway (30), and ground link (42). Service provider (40) responds by retrieving and sending the requested data information to the requesting subscriber unit (50) via ground link (42), gateway (30), gateway link (36), satellite communications network (10), and high-speed high-bandwidth downlink (58). Service provider (40) sends a set of standard data information to the satellite communications network (10) to be broadcast over the high-speed high-bandwidth downlinks (58). Each subscriber unit 50 receives the broadcast standard data information, preferably only those portions for which the subscriber unit (50) has access authorization. The satellite based broadcast data

communications service provides for data requests, data delivery, data access control, delivery priority, and billing for use of the system."

The Hall et al. patent states that a "method and system are disclosed whereby a mobile phone user can select one or more service preferences for the mobile phone from a simulated mobile phone display on an Internet web page. The user can access the web page from a personal or business computer. Once the selection has been made, the user can save the preferences to a server in the mobile phone network. The server contains (or provides links to) the full complement of services that are available for selection. The selected services' applications are downloaded from the server to the mobile phone (via the network) either immediately (if a network connection is already made) or the next time the phone is turned on. Consequently, the user can readily obtain the services desired, and also customize the display and "look and feel" of the mobile phone."

The Examiner's position is that the Yee et al. patent "discloses a data transmission system comprising: a two-way communication link (36, 56, & 58 all-together) comprising at least one satellite (10); at least one user terminal (subscriber 50) having two-way communication with the two-way communication link, and comprising a cache (i.e., the memory) for selectively caching data broadcast by way of the satellite of the two-way communication link (col. 3 lines 33-36); and at least one gateway (30) having access to data and having two-way communication with the two-way link (Fig. 1, and col. 3 lines 1-56).

The Examiner specifically admitted that "Yee does not specifically teach the user terminal comprises a cache for caching data."

However, the Examiner stated that "a mobile device (i.e., user terminal) having a cache for caching data is very well known in the art of communications, as evidenced by Hall. Hall teaches the mobile phone includes cache memory where the applications for the installed services are stored (col. 4, lines 28-37). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have used the cache memory taught by Hall with the subscriber unit (i.e., user terminal) of Yee in order to inform user of the mobile when the cache memory is filled, and run application that is not presently installed on the phone (col. 1, lines 60-63)."

The Yee et al. patent discloses that the "Aircraft 55 and ground equipment 57 are each equipped with a subscriber unit 50. Each subscriber unit 50 is configured to transmit data requests over a low bandwidth data channel to satellite communications network 10." It is further stated in the Yee et al. patent that " Subscriber unit 50 collects all data of potential interest to the subscriber, limited only by access authorization and memory limitations of the subscriber unit 50." Furthermore, as is shown and described with reference to Fig. 2 of the Yee et al. patent, the subscriber unit 50 contains a router controller 23. It is stated that "Router controller 23 preferably includes a processor and a memory in which an address register containing locations of nodes in the communications network is maintained."

In contrast to the teachings of the Yee et al. patent, the present invention employs a cache memory in the user terminal. This cache memory is not RAM, or a portion of main memory, as is employed in the Yee et al. mobile subscriber units. As is stated in the present application, "The user terminal 32 includes a cache memory 33 (also referred to as a smart cache) for storing downloaded data, typically during low usage periods. A preferred cache memory 33 has a size on the order of (or at least) 30 gigabytes." It is also stated in the present application that "The cache memory 33 requires no active system capacity when data is retrieved." It is further stated in the present application that "The smart local cache 128-128b is a high-speed storage mechanism comprising an independent high-speed storage device." and that "The smart local cache 128-128b comprises a storage medium that is preferably a hard disk storage medium having a capacity on the order of 30 gigabytes, for example."

Thus, it is clear that the memory employed in the Yee et al. subscriber unit 50 does not correspond to the cache memory employed in the present invention. It is respectfully submitted that there is nothing disclosed or suggested in the Yee et al. patent regarding a large cache memory on the order of 30 gigabytes, for example, or that the cache memory is an independent high-speed storage device, or that the cache memory comprises a hard disk storage medium. The pending independent Claims have been amended to more particularly point out the nature of the cache memory so that it clearly distinguishes over the RAM memory storage disclosed in the Yee et al. patent.

Furthermore, the Hall et al. patent, while it mentions the use of a cache in the mobile phone, it is stated that "Also, the mobile phone 12 preferably includes a cache (memory) where the applications for the installed services are stored." This "cache memory" is basically no different than the memory used in the Yee et al. subscriber unit. The Hall et al. patent also states that "If the cache becomes filled, the user can be so informed by looking at the display, and the user (or the server 18) can choose whether or not to delete some of the resident applications." Thus, the Hall et al. cache is system RAM that in certain instances is not large enough to hold all information that is downloaded to the mobile phone,.

It is respectfully submitted that there is nothing disclosed or suggested in the Hall et al. patent regarding a large cache memory on the order of 30 gigabytes, for example, or that the cache memory is an independent high-speed storage device, or that the cache memory comprises a hard disk storage medium.

Furthermore, it is respectfully submitted that the Yee et al. or Hall et al. patents, taken singly or together, do not disclose or suggest the use of a terminal that comprises both a cache for selectively caching data broadcast by way of the two-way communication link, and also comprises software which retrieves information requested by way of the user terminal and information related to the requested information.

Claims 1, 11, 25 and 29 each substantially recite that the user terminal comprises "a cache for selectively caching data broadcast by way of the satellite of the two-way

communication link", and also comprises "software which retrieves information requested by way of the user terminal and information related to the requested information." It is respectfully submitted that this type of terminal and software is not disclosed or suggested by the Yee et al. or Hall et al. patents, taken singly or together.

In addition, with specific regard to Claim 29, it is respectfully submitted that the Yee et al. or Hall et al. patents, taken singly or together, also do not disclose or suggest that the "two-way communication link may comprise "(3) terrestrial data request and delivery channels" as is recited therein.

Therefore, and in view of the above, amendments and arguments it is respectfully submitted that Claims 1, 11, 25 and 29 are not obvious in view of Yee et al. or Hall et al. patents, taken singly or together. Accordingly, withdrawal of the Examiner's rejection of Claims 1, 11, 25 and 29 is respectfully requested.

Dependent Claims 2-8, 12-17, 19-25 and 28 are considered patentable based upon their dependence from allowable Claims 1, 11 and 25. Accordingly, withdrawal of the Examiner's rejection of Claims 2-8, 12-17, 19-25 and 28 is respectfully requested.

Newly added Claims 30 and 31 address specific hardware aspects of the terminal, and in particular that the cache has a size or up to 30 gigabytes, and that the cache comprises a hard disk drive. It is respectfully submitted that the Yee et al. or Hall et al. patents, taken singly or together, do not disclose or suggest the use of a terminal that has these attributes. Therefore, it is respectfully submitted that Claims 30 and 31 are not obvious in view of Yee et al. or Hall et al. patents, taken singly or together. Allowance of Claims 30 and 31 is respectfully requested.

Claims 10 and 27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,151,497 issued to Yee et al. in view of U.S. Patent No. 6,356,543 issued to Hall et al. and further in view of U.S. Patent No. 6,463,270 issued to Chang et al. The Chang et al. patent is cited as disclosing a "communication system 400 (i.e., gateway) having a cache to store HLR addresses for recently requested NGPN (col. 8, lines 21-51).

It is respectfully submitted that independent Claims 10 and 27 are patentable over the Yee et al., Hall et al. and Chang et al. patents, taken singly or together, based upon their dependence from allowable Claims 1 and 11, respectively, and for the reasons argued above with regard to the allowability of Claims 1, 11, 25 and 29.

Therefore, it is respectfully submitted that Claims 10 and 27 not disclosed or suggested by the cited patents, taken singly or together. Therefore, withdrawal of the Examiner's rejection of Claims 10 and 27 is respectfully requested.

Attached hereto is a marked-up version of the changes made to the application by the present amendment. The attached page is captioned "Version with markings to show changes made."

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure to the extent indicated by the Examiner.

In view of the above, it is respectfully submitted that all pending claims are not anticipated by, nor are they obvious in view of, the cited references, taken singly or together, or taken in view of well known prior art, without the use of hindsight reconstruction, and are therefore patentable. Therefore, it is respectfully submitted that the present application is in condition for allowance. Accordingly, reconsideration of this application and allowance thereof are earnestly solicited.

Respectfully submitted,

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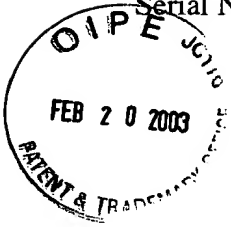
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

Please amend the paragraph starting at page 9, line 13, as follows.

Similarly, an end user 30 may wish to view a video movie available from a cable company 23. A web browser or other software on the Internet appliance 34, or a set-top box provided by the cable company 23, for example, may be used to request the video movie. The request is transmitted (uplinked) by way of the low bandwidth satellite [comminations link 40 , gateway] communications link 40, gateway 15 and Internet 21 to the cable company 23. Video data downloaded from the cable company 23 is transferred by way of the Internet 21 to the gateway 15, and is then downlinked by way of the (low and preferably high bandwidth) communication link 40 on the satellite 11 to the user terminal 32, which transfers the requested data to either the Internet appliance 34 or the user's television 35.

IN THE CLAIMS

Please amend the following Claims as indicated.

1. (Amended) A data transmission system comprising:
a two-way communication link comprising at least one satellite;
at least one user terminal having two-way communication with the two-way communication link and comprising a cache for selectively caching data broadcast by way of the
5   satellite of the two-way communication link, and further comprising software which retrieves information requested by way of the user terminal and information related to the requested information; and
at least one gateway having access to data and having two-way communication with the two-way communication link.

11. (Amended) A method of communication data comprising the steps of:
providing one or more orbiting satellites that comprise a two-way communication link;
providing at least one user terminal having two-way communication with the two-way communication link and comprising a cache for selectively caching data broadcast by way of the
5   two-way communication link, and further comprising software which retrieves information requested by way of the user terminal and information related to the requested information;
providing at least one gateway having access to data and having two-way communication with the two-way communication link;
generating requests for data at the at least one user terminal;

10　　　　　transmitting the requests for data from the at least one user terminal by way of the two-way communication link to the at least one gateway;

　　　　　obtaining the requested data at the at least one gateway; and

　　　　　transmitting the requested data from the at least one gateway to the at least one user terminal by way of the two-way communication link.

　　　　　25.　(Amended)　A data transmission system comprising:

　　　　　a terrestrial communication link for communicating requests for data;

　　　　　a satellite broadcast link for transmitting the requested data;

　　　　　at least one gateway having access to data that communicates with the terrestrial

5　　communication link and the satellite broadcast link; and

　　　　　at least one user terminal that communicates with the terrestrial communication link and the satellite broadcast link and that comprises a cache for caching the requested data broadcast by the satellite broadcast link, and further comprises software which retrieves information requested by way of the user terminal and information related to the requested information.

　　　　　29.　(Amended)　A data transmission system comprising:

　　　　　a two-way communication link comprising at least one satellite;

　　　　　at least one user terminal having two-way communication with the two-way communication link and comprising a cache for selectively caching data broadcast by way of the

5　　satellite of the two-way communication link, and further comprising software which retrieves information requested by way of the user terminal and information related to the requested information; and

　　　　　at least one gateway having access to data and having two-way communication with the two-way communication link;

10　　　　　which two-way communication link selectively comprises (1) low bandwidth data request and delivery channels, or (2) a low bandwidth data request channel and a high bandwidth data delivery channel, [(] or (3) terrestrial data request and delivery channels.

　　　　　Please add the following new Claims.

　　　　　--30.　The system in Claim 1 wherein the cache has a size on the order of 30 gigabytes.--

　　　　　--31.　The system in Claim 1 wherein the cache comprises a hard disk drive.--